

ENGR 520

ENGINEERING DECISION SUPPORT/EXPERT SYSTEMS

Offered Spring as needed

Prereqs: ENGR 510

Spring 2022 offering is open to students who have not completed ENGR510 - Contact Dr. Steve Conrad to learn about a pre req waiver

DESCRIPTION

This course provides an introduction to engineering decision support systems, normative vs. descriptive approaches in decision analysis. Basic concepts include multiobjective analysis and decision making, human behavior, and fuzzy and AI optimization under conflicting objectives and uncertainty.

BENEFITS

Decisions are routinely made throughout engineering design, process, and management and decision support is a crucial element of making well-informed decisions. The goal of Decision Support/Expert Systems is to bring together the elements of decision making, the problem, boundary, and decision maker, to inform and optimize decision outcomes through computer-aided systems.

COURSE OBJECTIVES

Students will practice the principles taught in the course through weekly assignments and a term project of the individual student's choice.

Students will learn to:

- Design and develop decision support systems
- Analyze multi-objective decision making
- Manage risk and uncertainty
- Apply optimization for decision support
- Utilize artificial neural networks

